

20. (New) The missile launcher according to claim 6, wherein said elongated exhaust gas chimney is circular in cross-section.

21. (New) The array of missile launchers according to claim 7, wherein a canisterized missile lies within each of said cavities.

22. (New) The missile launcher according to claim 15, wherein the elongated exhaust gas chimneys are circular in cross-section.

23. (New) The array of missile launchers according to claim 16, wherein the elongated exhaust gas chimneys are circular in cross-section.

REMARKS

Claims 1-18 stand rejected under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the invention. Additionally claims 1-18 stand rejected under 35 U.S.C. 102(b) as being anticipated by Weeks et al. and also under 35 U.S.C. 102(a) as being anticipated by Larson et al. In this response the claims have been amended to more particularly claim the invention. Claims 4, 12, and 18 have been canceled with new claims 19 to 23 added. No new matter has been added. Reconsideration of this application is requested.

1. Rejection under 35 U.S.C. § 112

Claims 1-18 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In response, Applicant has rewritten the independent

claims to overcome this rejection. Use of the term MK 25 has been removed. Claim 13 and Claim 14 have been amended to clarify the use of the term “deck” and “like missile launcher”.

The invention is a missile launcher or an array of missile launchers. While the invention is a launcher adapted for use with canisterized missiles, it is the subcombination of the launcher that is the invention. Applicant believes that the claims as amended clearly define the “missile launcher” or “array of missile launchers” as the invention and only claims the combination in dependent form.

The invention is a missile launcher cell for canisterized missiles which can be formed into multiple-cell missile launcher arrays. The missile launcher cells may be interconnected in various combinations to form arrays of various number of cells configurations. Each cell contains its own elongated exhaust gas chimney so that it may be used individually. There is no need to keep one or more cells vacant to provide venting of exhaust gases during launch. The elongated exhaust gas chimneys provide venting of exhaust gases under hoop tension and require the least area. This makes for a lighter weight, more compact missile launcher design which can be readily arrayed in various numbers of launchers.

2. Rejection Under 35 U.S.C. § 102(b)

Claims 1-18 were rejected under 35 U.S.C. 102 (b) as being unpatentable over Weeks et al. (GB 2,124,741). Weeks discloses a container for storing and launching a missile. Weeks does not have a modular configuration including an armored deck structure for nesting of launcher containers into arrays of various sizes. In Weeks, the container module and canister are on and the same and not separate sub-assemblies

therefore precluding multiple packaging of missiles. The rocket motor efflux exhaust is not accomplished via round uptakes but through inefficient triangular ducts.

The present invention as disclosed in the Summary of the invention on page 4 and several places in the Description such as page 17, line 22 page 19, line 25 and in the originally filed claims has "elongated exhaust gas chimneys." Weeks et al. does not

The present invention can be used as a stand alone missile launcher cell or in a cluster of multiple one cell modules to create a launcher array of any desired size. The modular design allows nesting by attaching deck/hatch together thus creating an external armored surface. The cell opening accommodates replaceable missile canisters to be placed into the module. Each missile canister can have multiple missiles. A dog-down hold down mechanism is used to secure the canister into each cell. Each cell has its own self-contained exhaust gas management system. The exhaust gas chimneys used have a circular cross-section and are subject to hoop tension during missile launch. The performance of each cell is independent of other modules. The present missile launch cell structure accommodates launch control electronics to be securely attached for firing of the containerized missile.

3. Rejection under 35 U.S.C. § 102(a)

Claims 1 -1 8 stand rejected under 35 U.S.C. 102 (a) as being unpatentable over Larson et al. (USP 6,230,604). Larson discloses a canister for launching a missile having a cylindrical outer tube with a hemispherical head having passages through for gases generated when a missile is fired. A restraint mechanism secures the missile to a base plate which is released in response to firing of the missile.

Larson et al. does have “elongated exhaust gas chimneys” such as the present invention. This feature provides a light weight compact missile launcher design, capable of handling high pressure exhaust gases for rocket launcher. The claims have been amended to reflect the unique feature of the present invention as having elongated exhaust gas chimneys. .

The configuration of Larson may have either two or four cells openings making the launcher only capable of sizing in combinations of two or four missiles. The canister and gas management system are one and the same, not two separate sub-assemblies. The rocket motor efflux exhaust is not accomplished via round uptakes but through inefficient rectangular ducts.

The present invention is not anticipated by the claims of either Weeks et al. or Larson et al. Nor is the invention obvious over the cited references. It is well established that in order to show obviousness, all limitations in the claim has to be taught or suggested by the prior art. In Re Boyka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); MPEP section § 2143.03. It is error to ignore specific limitations over the references. In Re Boe, 184 USPQ 38, 505 F.2d 1297 (CCPA 1974); In Re Saether, 181 USPQ 36, 492 F.2d 849 (CCPA 1974); In Re Glass, 176 USPQ 489, 472 F.2d 1388 (CCPA 1973). No single reference shows all the limitations in the claimed invention.

Citing references such as Weeks et al. or Larson et al. which merely indicate the isolated elements and/or features recited in the claims are known is not a sufficient basis for concluding that the combination of claimed elements would have been obvious. Ex parte Hiyamizu, 10 USPQ 2d 1393 (BPAI 1988). Obvious cannot be established by combining the teachings of the prior art to produce the claimed inventions, absent some teaching, suggestion or incentive supporting the combination. In Re Geiger, 815 F.2d 686

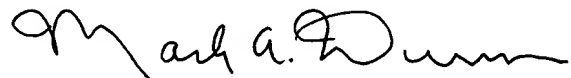
(Fed. Cir. 1987), 2 USPQ 2d 1276: In Re Fine 837 F 2d 1071, 5 USPQ 2d 1596 (Fed Cir. 1988).

The other references cited by the Examiner have been reviewed and none of them render the present invention unpatentable.

CONCLUSION

From the arguments above, it should be clear that the references cited by the Examiner, taken singularly or in combination, do not teach or suggest the Applicant's invention. Having responded to all objections and rejections set forth in the outstanding Office Action, it is submitted that the pending claims 1-3, 5-11, 13-17 and 19-23 are in condition for allowance and Notice to that effect is respectfully solicited. In the event that the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, he is courteously requested to contact Applicants' undersigned representative.

Respectfully Submitted,



Mark A. Wurm (Reg. No. 31,628)
Lockheed Martin NE&SS
9500 Godwin Drive
MS: 400/043
Manassas, VA 20110
(703) 367-2128
E-mail: mark.a.wurm@lmco.com

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